The University of New Hampshire (UNH) has been a UCAR member since 1991. The primary UCAR-related organizations at the UNH, in terms of faculty lines and curricula, are the Department of Earth Sciences (ESCI), the Physics Department (PHYS), and the Department of Natural Resources and the Environment (NREN). The first two departments are part of the College of Engineering and Physical Sciences while NREN is part of the College of Life Sciences and Agriculture. Each department is affiliated with the interdisciplinary Institute for the Study of Earth, Oceans, and Space (EOS).

1. Program of Studies and Research

UCAR-related fields of study and research within ESCI are geology, hydrology, oceanography, ocean mapping, geochemistry, climate science, atmospheric science, and geophysics. Nineteen of the 34 ESCI faculty members are UCAR-related. ESCI has granted 38 B.S. degrees and 42 M.S. degrees over the last five years. The application packet does not make clear how many of those degrees are for UCAR-related activities. The application notes that ESCI graduate students have earned numerous awards over the last five years, including a NASA fellowship. ESCI’s research and instructional facilities include a sedimentology laboratory, a glaciochemistry and paleoclimate laboratory, a hydrology laboratory, and the Tischler Computer Classroom.

UCAR-related fields of study and research within PHYS include solar-terrestrial theory, theoretical plasma and space physics, and cosmic rays. Twenty three of the 48 PHYS faculty members are involved in UCAR-related science. PHYS has granted 70 B.S. degrees, 15 M.S. degrees, and 27 Ph.D. degrees over the last five years. The application packet does not make clear how many of those degrees are for UCAR-related activities. The application packet notes that, annually, at least one PHYS graduate student has won an AGU Outstanding Student Presentation Award for the last five years. PHYS’s research and instructional facilities include high-performance super computers and technology-enabled active learning classrooms.

UCAR-related fields of study and research within NREN are environmental and social sciences, and their application to the policy and management of natural resources. Fourteen of the 37 NREN faculty members participate in UCAR-related science. Over the past five years, NREN has granted 75 B.S. degrees and 85 M.S. degrees. The application packet does not make clear how many of those degrees are for UCAR-related activities. The application packet highlights the work of one graduate student who researched the relationship between fungicides and greenhouse gas emissions. NREN’s research and instructional facilities include a lab dedicated to geospatial analysis, remote sensing and GIS; the New Hampshire Water Resource Research Center; and College Woods, an outdoor classroom managed by the Office of Woodlands and Natural Areas.
The application packet also describes the Natural Resources and Earth Systems Science Ph.D. Program. Faculty for the program include some from ESCI and NREN. The program has granted 46 Ph.D. degrees over the last five years.

2. Progress in UCAR-related Sciences

Annual external funding for UCAR-related research at UNH is approximately $50M from agencies such as NASA, NSF, and NOAA. EOS faculty alone have published over 900 resulting journal articles, as first authors, over the last five years. Moreover, the number of EOS-related publications, as well as the corresponding average impact factor, has been increasing annually since 2011. Various UNH faculty have had leadership roles in NSF, NASA, and NOAA funded projects as well as on agency advisory committees and science advocacy committees.

The application packet highlights several UCAR-related researchers at UNH. For example, a recent publication in *Nature* by Professor Matthew Huber investigates the relationship between Antarctic glaciation 34 million years ago and carbon dioxide levels. And, Dr. Katharine Duderstadt recently published an article in *Journal of Geophysical Research* which describes the use of the NCAR Whole Atmosphere Community Climate Model to examine the cause of nitrate spikes in snow.

3. Participation in the Activities of UCAR

UNH personnel actively participate in the activities of UCAR. Member representatives routinely attend the Heads and Chairs Meeting and serve on various UCAR committees (e.g., the NCAR Strategic Planning Committee). Moreover, UNH has strong collaborative ties with NCAR scientists through, for example, the UVISIT program.

4. Recommendation

The UCAR Membership Committee concludes that membership criteria are fulfilled, and recommends to the Members’ Representatives that the membership of the University of New Hampshire be continued as provided by the bylaws.